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Amendment A

REMARKS

The claims have been amended without adding new matter in order to correct minor informalities and to address other issues raised by the Examiner. Claims 1, 4, 5, 6, 16, 35, 41, 42, 48, 54, and 55 have been amended. Claims 2, 3, 32, and 47 have been canceled without prejudice. Fifty two (52) claims remain pending in the application: Claims 1, 4-31, 33-46, and 48-56. Reconsideration of claims 1, 4-31, 33-46, and 48-56 in view of the amendments above and remarks below is respectfully requested.

By way of this amendment, Applicant has made a diligent effort to place the claims in condition for allowance. However, should there remain any outstanding issues that require adverse action, it is respectfully requested that the Examiner telephone the undersigned at (858) 552-1311 so that such issues may be resolved as expeditiously as possible.

Claim Objections

2. Claims 1, 31, 32, and 54 have been objected to for minor typographical errors. Claims 1, 42, and 54 have been amended to address these typographical errors, and claim 32 has been canceled without prejudice because it is a repeat of claim 31.

Examiner has objected to the use of the term "spacings" in the claims. Applicant respectfully traverses Examiner's objection in that "spacing" is a noun as defined by any dictionary including Merriam-Webster's Online Dictionary, 10th Edition, and can therefore be used in the plural as "spacings", meaning more than one spacing, as it is used throughout the specification. Furthermore, Applicant may be his own lexicographer and use the term "spacings" as defined throughout the application as one or more spacing, e.g. d, 2d, 4d. Therefore, the Applicant respectfully requests that Examiner remove his objection to the term "spacings".

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Claim Rejections - 35 U.S.C. §102

3. Claims 1, 7, 10-15, 22, 25-31, 33, 35, 41-46, 51, and 54 stand rejected under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 5,848,170 (Mahieux et al.). Similarly, claims 1-2, 8-14, 16, 23-24, 35, 39-41, 52-53 stand rejected under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 5,684,882 (Mahieux et al.).

3a. Applicant has amended independent claims 1, 16, 35, 41 and 55 to recite language that is not taught or suggested by the Mahieux '170 patent or the Mahieux '882 patent. More specifically, amended claim 1, for example, recites in part:

a plurality of second filters each connected to an output of one of the microphones such that each microphone is connected to a microphone signal adder through the second filter, wherein each of the second filters implements one of a plurality of windowing functions that are each a function of one of the pluralities of spacings associated with the one of the microphones with which the second filter is connected;

This language incorporates elements similar to those recited in originally filed claims 2 and 3, and therefore claims 2 and 3 have been canceled. Claims 41 and 55 have been amended to include similar language as that above in amended claim 1. Similarly, the language of claim 41 incorporates elements similar to claim 47, and therefore claim 47 has been canceled. Amendments to claim 1, 41, and 55 are supported throughout the application as filed, for example in at least paragraphs 33-41. Therefore, no new matter has been added by these amendments.

Both the Mahieux '170 and the Mahieux '882 patents fail to teach or suggest a filter prior to summing the individual microphone outputs. Examiner suggests that claim 2 is taught by Mahieux '882 in Fig. 5a (see Office Action Paragraph No. 35), however, Fig. 5a shows filtering only after the microphone outputs have been summed in SA1, SA2, SA3 and SA4.

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Further, Mahieux patents '170 and '882 fail to teach or suggest a filter that implements a windowing function that varies with the spacing of each microphone to each output of the plurality of microphones. Therefore, amended claims 1, 41, and 55 and all claims dependent on these claims are now in condition for allowance.

3b. Applicant has also amended independent claims 16 and 35 to recite language that is not taught or suggested by the Mahieux '170 patent or the Mahieux '882 patent. More specifically, amended claim 16, for example, recites in part:

wherein a first set of microphones is configured to produce cardioid pickups in a first direction, and a second set of microphones configured to produce cardioid pickup in a second direction opposite the first direction such that the planar array establishes substantially equal angular resolution in both the first and second directions.

Claim 35 has been amended to include similar language as that above in amended claim 16. Amendments to claims 16 and 35 are supported throughout the application as filed, for example in at least paragraphs 57. Therefore, no new matter has been added by these amendments.

The Mahieux '882 and '170 patents fail to teach or suggest a first set and a second set of microphones configured in a manner such that microphones in a single array may pick up sound in opposite direction with substantially equal angular resolution. Therefore, amended claims 16 and 35 and all claims that are dependent from these claims are now in condition for allowance.

Claim Rejections - 35 U.S.C. §103

4. Claims 2-6, 17-21, 36-38, 47-50 and 55-56 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent No. 5,848,170 (Mahieux et al.) in view of U.S. Patent No. 4,741,038 (Elko et al.). Similarly, claims 3-6 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent No. 5,684,882 (Mahieux et al.) in view of U.S. Patent No. 4,741,038 (Elko et al.).

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4a. Claim 1 had been amended to incorporate elements similar to those recited in originally filed claims 2 and in addition to elements which are not taught or suggested by Mahieux '170 or '882 as modified by Elko. More specifically, amended claim 1, for example, recites in part:

wherein each of the second filters implements one of a plurality of windowing functions that are each a function of one of the pluralities of spacings associated with the one of the microphones with which the second filter is connected...

Claims 41 and 55 have been amended to include similar language as that above in amended claim 1. Elko does not teach or suggest a "plurality of windowing functions". Further, Elko does not teach or suggest multiple windowing functions, where each function depends on the microphone's distinct spacing.

Instead, Elko implements a single "rectangular window function... to reduce sidelobe response. The rectangular window is obtained by having the same sensitivity at all transducer elements...". (Elko et al., Col. 6, lines 24-30). Elko does not teach or suggest implementing multiple windowing functions or multiple functions dependent on different distances. Instead, Elko describes implementing a uniform window function which applies the same weight to all transducers regardless of different spacing distances within the array. Section 2143.03 of the MPEP states that in order "to establish a prima facie case of obviousness of a claimed invention, all of the claimed limitations must be taught or suggested by the prior art." Therefore, a prima facie case of obviousness is not met by the combination of the Mahieux '170 patent or '882 patent and Elko. Therefore, as amended, independent claims 1, 41 and 55 and all claims that are dependent on these claims are not obvious over Mahieux '170 or '882 in view of Elko, and are in condition for allowance.

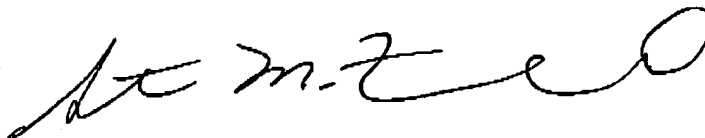
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CONCLUSION

Applicant submits that the above amendments and remarks place the pending claims in a condition for allowance. Therefore, a Notice of Allowance is respectfully requested.

Respectfully submitted,

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